REMARKS FOR DEPUTY ADMINISTRATOR LORI GARVER
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CIVIL SPACE KEYNOTE: THIRD ANNUAL DC SPACE AND CYBER CONFERENCE
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As said, my background is in the field of space policy, and there are so many new and exciting advances in this field that it is a wonderful opportunity to serve at NASA during this time. The political process with the White House, the interagency process, and congress gave focus on these policy developments today and how they are closely tied with our guiding legislation, the National Aeronautics and Space Act of 1958 as amended.

NASA is proud to be an integral part of President Obama's National Space Policy announced in June. Space is the cornerstone of a new national focus on research and development. We've under-invested in this area for years and unfortunately we have not fully capitalized on the great opportunities space can bring to innovation and as a driver for our Nation's economy. As we develop the capabilities that we know we need to achieve the big things we're going to be called on to do, we will create new technologies with a variety of benefits here on Earth, spurring new and helping established industries and driving our economy forward. The Space Policy enforces that this is a major role for NASA and for civil space, and we need to seize the opportunity that this Administration is presenting to us to bring NASA to the forefront in innovation and technology development.

This is the earliest a President has issued a space policy of any of the past three administrations. It shows the President's commitment to space and how much he believes in its potential to benefit our economy and to have a positive impact on the larger issues affecting our world.

Essentially, he's calling us to look beyond the near term to where we want to be in a generation. The details regarding how we will be able to implement through the FY11 budget are being determined right now by our Nation's leadership. We are encouraged that many of the key elements of the President's plan are present, from an increased focus on developing commercial capabilities in space, to enhanced technology development and strengthened international relations.

It is very exciting to be part of the innovative and future-driven agenda that President Obama has set for the nation. The goals outlined in the Space Policy are what we sometimes call the “why” of what we are doing. They set the overall direction, and then NASA can work within this “why” to determine best “what” and “how” to implement. These goals include:

- Energize competitive domestic industries to participate in global markets and advance the development of: satellite manufacturing; satellite-based services; space launch; terrestrial applications; and increased entrepreneurship.

- Expand international cooperation on mutually beneficial space activities to: broaden and extend the benefits of space; further the peaceful use of space; and enhance collection and partnership in sharing of space-derived information.

- Pursue human and robotic initiatives to develop innovative technologies, foster new industries, strengthen international partnerships, inspire our Nation and the world, increase humanity’s understanding of the Earth, enhance scientific discovery, and explore our solar system and the universe beyond.

- Improve space-based Earth and solar observation capabilities needed to conduct science, forecast terrestrial and near-Earth space weather, monitor climate and global change, manage natural resources, and support disaster response and recovery.

You can see how much this Nation’s executive leadership is focusing on a capabilities-driven direction for our space program to develop new technologies, enhance our economy, expand our domestic and global partnerships, as well as inspire humans around the world. This is the basis of why we are pursuing the programs that we are planning. Now our amazing technical experts at NASA can help us determine how to this affordably and sustainably.

We're fleshing out specific missions and programs to fulfill the direction of this space policy and the direction given through the President’s budget request (pending approval from Congress) that are going to continue that NASA history of astounding the world and making history.

We're building on history even as we create it. All of this unfolds from the forward-thinking legislation that created NASA, the National Aeronautics and Space Act of 1958.

The Space Act has been amended through time, but always in the spirit of the original and to take into account new possibilities and challenges. The President's proposed FY 2011 budget for NASA and his further delineation of his goals in the Space Policy are aimed squarely at fulfilling the key principles of Congress' design for our nation's civil aeronautical and space activities—and the Administration it created to conduct them—that were laid out in that founding document.

Right up front in its Declaration of Policy and Purpose, in the Space Act, NASA was directed to make concrete and genuine contributions to nine fundamental objectives. Over the course of its nearly 52-year history, NASA's success in advancing those goals has been impressive. The first five objectives of the Space Act are reflected in the President's policy:

- Expand human knowledge of the Earth and of phenomena in the atmosphere and space;
- Improve aeronautical and space vehicles;
- Develop and operate space vehicles to carry equipment and living organisms through space;
- Conduct long range studies on aerospace opportunities, benefits and challenges; and
- Preserve the role of the U.S. as a space leader.

The President's policy puts us squarely on a future-thinking path where we take the actions that lead to tangible progress on the technologies that will truly make us a spacefaring nation in a sustainable way. But it also maintains continuity with the fundamental precepts that have endured since the dawn of the space age, which have served this country very well and made it a leader in space and led to accomplishments that have benefited the entire world.

Our purpose in taking NASA forward on a bold new path is to uphold and advance the fundamental principles of the Space Act.

Congress observed that NASA's activities should materially contribute to "[t]he preservation of the United States' preeminent position in aeronautics and space through research and technology development related to associated manufacturing processes."

And to fulfill its key role in achieving the goals defined in the new policy, NASA is committed to working with other agencies, industry, and international partners.

Cross-agency partnerships, partnerships with other countries, the focus on building up the capacity of industry not only to relieve government of one function so that it can pursue a larger one, but also to create jobs…these things are all about maximizing resources and getting the most value for the taxpayer.

A part of the President's budget request that has received a great deal of attention, is the direction to develop and enable commercial partnerships. We want to do all we can to ensure that the commercial space sector achieves its highest potential, to help us reach our goals, to explore more affordably and to generate long term economic growth. And the policy also tells us NOT to do things that make government a competitor with industry. Tying this back to the Space Act again, Congress has declared, in sections 102 and 203, that "the general welfare of the United States requires that [NASA] seek and encourage, to the maximum extent possible, the fullest commercial use of space."

Industry has been providing essential services to NASA since the dawn of the space age, and, with congressional guidance we will act in line with the policy's directives to: "Develop governmental space systems only when it is in the national interest and there is no suitable, cost-effective U.S. commercial or, as appropriate, foreign commercial service or system that is or will be available."

And to: "Purchase and use commercial space capabilities and services to the maximum practical extent when such capabilities and services are available in the marketplace."

And to: "Pursue potential opportunities for transferring routine, operational space functions to the commercial space sector where beneficial and cost-

effective, except where the government has legal, security, or safety needs that would preclude commercialization."

We recognize that will be good for the country. Our final direction in this area, the scope and exact nature of our partnerships, is still being discussed, but we are certain to rely on the innovation and expertise of our nation's industry and entrepreneurs in the future.

We need to tap the brain trust cabilities and there's a resource pool that is ready to go to the next level to give them to us. It would free NASA to do more cutting edge things and at the same time help create a whole new segment of the economy that will create thousands of good, new jobs and continue to spin off high tech businesses. It will be one of the most interesting outcomes of this policy to see how those relationships develop over the next couple of years.

In this same vein of increasing capabilities, the Space Act states that NASA's activities should advance "the improvement of . . . aeronautical and space vehicles; the development and operation of vehicles capable of carrying instruments, equipment, supplies, and living organisms through space; [and] the preservation of the role of the United States as a leader in aeronautical and space science and technology . . . ." The President's budget provides for transformative technology development and innovative technology demonstrations to pursue more advanced approaches to space exploration. It fosters research and development on propulsion technologies leading to an accelerated on heavy-lift vehicle, and seeks to modernize our nation's critical launch infrastructure. The goal is to improve US competitiveness, including the launch sector, to improve and expand the space industrial base and increase the nation’s economic growth.

And we do need to energize our industrial base. We've lost a lot of ground, for instance, in launch services. There's a huge amount of energy and expertise out there and we need to use it. This policy embraces the historical roles of the agency, building on its strengths and the firm foundation it has built in areas such as research and development of future launch systems, robotic missions to destinations throughout the solar system, and Earth science, where our fleet of satellites are studying climate change and providing essential data for decision-makers.

But the Space Act makes clear that the U.S. is not to explore alone. Indeed, Congress directed NASA to pursue "cooperation . . . with other nations and groups of nations in work done pursuant to [the] Act and in the peaceful application of the results thereof." Accordingly, the President's proposed FY 2011 budget for NASA and the Space Policy continues and increases history's most impressive multilateral space program, the International Space Station, and provides for increased utilization of the ISS by governmental and non-governmental participants alike. The station, in other words, will be allowed to reach its full potential as an unprecedented orbiting laboratory, and the discoveries we make there will boost our exploration goals.

Already we've learned a great deal about pathogens like Salmonella through station research. Students are going to be testing their software skills on mini-satellites that they program to fly around the station's cabin and demonstrate maneuvers. The first robotic crew member, Robonaut, heads up to the station in November. We're just now beginning full utilization of the ISS for what is likely to be one of the Space Age's most memorable collaborations, as we plan one of humanity's boldest ventures as the people of a planet, not just one nation.

Since its inception in 1958, NASA has enjoyed significant benefits in almost all of its major programs through various levels of international cooperation. In the past 50 years, the agency's international cooperative activities have involved more than 3,000 agreements with over 100 nations or international organizations. This cooperation includes a broad range of activities such as: joint mission planning and development of human space flight systems on the ISS; flight of international astronauts on the space shuttle; flight of NASA instruments on international spacecraft (and vice-versa); suborbital campaigns and field research, including measurements from sounding rockets, balloons, aircraft and ground-based measurements; and scientist to-scientist data exchanges with joint analysis and publication.

These activities have enabled us to develop the kind of partnerships we will need as we expand our plans for exploration beyond low earth orbit. International contributions and partnerships have contributed significantly to the success of many of our programs and missions. Our experience working on the station's robotic Canadarm 2 and the stunning success of Cassini-Huygens at Saturn, our collaboration on Japan's Hinode (HEE-no-day) to studythe sun, and instruments we had on Indian's Chandrayaan-1.

We are also taking new steps towards enhanced international cooperation with the NASA-European Space Agency Mars program.

Building on our existing relationships, right now, we're continuing discussions on future space exploration plans with international partners from more than a dozen space agencies. In parallel, we are continuing to refine our needs and objectives in a manner that will enable us to achieve our common space exploration goals through significant cooperation with both our current and non-traditional international partners.

In pursuing innovative programs with both traditional and nontraditional international partners, NASA is also fulfilling another important mandate of the Space Act, which directs the Agency to "(expand) human knowledge of the Earth and of phenomena in the atmosphere and space." If approved, the President's budget proposal will enhance these efforts, as it seeks to increase research and accelerate the next wave of climate change research and observations spacecraft. This would allow us not only to accelerate priority new missions, and "continuity" missions, those that will help us build on previous missions and continue gathering vital data over the long term. And also be accelerating those in identified in the latest decadal survey, and re-flying the Orbiting Carbon Observatory, which experience a launch failure last year.

A very important aspect of the policy not tied to a specific mission is its call to develop and retain space professionals. The Space Act itself states that NASA shall "provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof." It is therefore our mission to advance not only technological development and scientific discovery, but to make that knowledge widely available and here is where we're a part of the nation's education effort – and beyond formal education to science and technical literacy and to inspiration. We need to help reach and keep the next generation engaged in our air and space adventures.

We are wrapping up the first Summer of Innovation, and brought thousands of middle schools students into direct interaction with NASA missions, equipment and scientists. NASA supported 300 of the 1800 teams in FIRST robotics, where competitors design and build their own robots for specific tasks. Applications for our Aeronautics scholarships for college students are being taken right now…in addition to outreach, to fellowships

and scholarships and mentoring, and student projects on missions – things that are helping to nurture that pool of science, technology, engineering and math professionals.

We're implementing programs in the STEM disciplines that focus on innovative ways to reach undergraduate and graduate students, improve student retention in STEM disciplines, leverage the research platform of the ISS, and better engage community colleges and minority institutions in STEM efforts.

Of course, one of the best things we can do to encourage people to take up these careers is to do the great things that inspire them and show how NASA's contribution to society and advancement. And I am absolutely confident that is going to happen in the decades to come as we visit places we've never been, as we demonstrate technologies that have never existed before outside of physicists' notebooks, and as we take the human experience to the next level.

It's a great time to be in this field. I always tell people who want to study science and engineering that we can use each and every one of them. But we also need people from the arts and humanities, who understand other languages and cultures and can interpret what this enormous experience means to us.

And of course the lawyers. Policies are by their nature, like laws, made to be interpreted, to paint with broad brushes and have specifics filled in as real life occurs. We are, all of us, America -- creating a great space program, and as we do so, we will have all sorts of legal and policy challenges that arise, and that's part of the fun. I will admit to being a policy wonk. I find this all very exhilarating, and I look forward to the years ahead as this new Space Policy is explicated and amplified and fleshed out with real world experiences and missions.

The intent of the Space Act has always been for NASA to "contribute materially" to the broader five objectives I outlined in the beginning of the talk, and to keep us looking forward, to keep us innovating. In the biggest picture, the benefits for our country and the world from investing in aeronautics and space activities are derived from NASA's philosophy, its mission driven approach. We set goals and solve problems.

As Congress has directed, it is NASA's mission to further the general welfare of the United States through the programs and capabilities I have mentioned. The President's Space Policy is aligned with the goals set forth in the Space Act, and enables exciting developments in research and technology that will make future space flight more affordable and sustainable and inspire a new generation of Americans.

We carry the NASA banner proudly, building on a legacy of hard work and sacrifice and finding new ways to fulfill our key mandate as laid out in the Space Act and advanced with the new Space Policy. It is an honor for me to again work at NASA and carry out this work on behalf of the American people. I'm often asked these days how I can manage during such a difficult and stressful time. My response is that it is not at all stressful to be working toward such important goals as those of NASA and to be able to work with the unbelievably talented space community.

As it always has, NASA stands ready to again transform our nation's perspectives and expectations, and to use space to reach for our highest potential. We are absolutely following both the spirit and letter of the Space Act – to benefit our nation, to make the most use of our emerging capabilities and develop new ones, in short to create a new world, and to be ready for the future we were already creating.

I don't think I can say it any better than the policy itself: The United States hereby renews its pledge of cooperation in the belief that with strengthened international collaboration and reinvigorated U.S.leadership, all nations and peoples—space-faring and space-benefiting—will find their horizons broadened, their knowledge enhanced, and their lives greatly improved.

Thank you for asking me to come here today to share my views and I am happy to take questions.